

SUPPLEMENTARY FILE 4: Intervention exercises

Table: Supervised rehabilitation exercise options

Category	Exercise	Description
	Name	
<i>Stretching</i>		
Bending knee	Bending knee in sitting	AROM knee flexion in sitting
	Bending knee in lying	AAROM knee flexion in long sitting using hands
	Thigh muscle stretch	Quadriceps muscle stretch in standing
	Bending knee in kneeling	Lowering bum to heels in kneeling
Straightening knee	Straightening knee in lying	Static quadriceps muscle contractions
	Straightening knee in lying with foot elevated	Static quadriceps muscle contractions with foot elevated e.g., on rolled up towel
	Straightening knee in sitting	PROM knee extension using hands in sitting
<i>Balance</i>	Putting weight through your injured leg	Weight shifting with upper limb support
	Standing on your injured leg with a hand on support	Single leg stand with contralateral upper limb support
	Standing on your injured leg without a hand on support	Single leg stand without upper limb support
	Squatting on your injured leg	Single leg squat
	Preparation for landing	Step from one leg to other landing in semi-squat position, repeat laterally and on both legs
	Hopping forwards and sideways on both legs	Double leg hop forward, repeat laterally
	Hopping forwards and sideways from one leg to the other	Single leg hop forward from one leg to other, repeat laterally and on both legs
	Hopping forwards and sideways on the same leg	Single leg hop forward onto same leg, repeat laterally and on both legs
	Hopping forwards and sideways on the same leg over cones	Single leg hop forward over a cone (or similar) onto the same leg, repeat laterally and on both legs
<i>Strengthening</i>		
Hip and knee flexion/extension pattern	Squat	Squat +/- weight
	Standing up and down working the injured leg	Squat to chair in split stance (unaffected leg in front)
	Squatting on the injured leg	Single leg squat to chair +/- weight
	Lunging backwards	Reverse lunge +/- weight
Quadriceps focussed	Straightening knee against resistance band	Resisted knee extension using resistance band
	Wall squat	DL wall squat
	Wall squat on one leg	Single leg wall squat
	Lunge working the back leg	Lunge biasing the quad of the rear leg
Posterior chain focussed	Deadlift feet staggered	Single leg stiff leg deadlift with toes of rear leg on ground +/- weight
	Deadlift on one leg	Single leg stiff leg deadlift +/- weight
	Bridge on one leg	Single leg glute bridge
	Bridge on one leg with shoulders elevated	Single leg glute bridge with shoulders elevated (e.g., on bench/chair)

Category	Exercise	
	Turning thighs out against resistance band	Resisted hip external rotation in semi-squat position using resistance band around thighs
<i>Running</i>	Preparing to slow down	Decelerating finishing in split stance, repeat alternating forward leg
	Slowing down	Decelerating finishing both feet in line horizontally
	Changing direction	90° turn, repeat opposite direction

AROM: active range of movement; AAROM: active assisted range of movement; min: minute; PROM: passive range of movement

Table: Self-managed rehabilitation exercise options

Category	Exercise		Parameters	Progression
	Level	Description		
<i>Stretching</i>				
Knee bending	1:	AROM knee flexion in sitting	3 x 10 reps	Bend knee further using unaffected leg
	2:	AAROM knee flexion in long sitting using hands	3 x ≥30 s	Bend knee further
	3:	Quadriceps muscle stretch in standing	3 x ≥30 s	Bend knee further
	4:	Lowering bum to heels in kneeling	3 x ≥30 s	Lower bum further towards heels
Knee straightening	1:	Static quadriceps muscle contractions	3 x 10 reps	Push knee down harder
	2:	Static quadriceps muscle contractions with foot elevated e.g., on rolled up towel	3 x 10 reps	Push knee down harder
	3:	PROM knee extension using hands in sitting	3 x ≥30 s	Push knee down harder and for longer
<i>Balance</i>	1:	Weight shifting with upper limb support	3 x 10 reps	Increase weight through affected leg, increase time up to 10 s
	2:	Single leg stand with contralateral upper limb support	3 x 10 reps	Lean on support less, increase time per rep up to 10 s
	3:	Single leg stand without upper limb support	3 x 10 reps	Increase time per rep up to 10 s
	4:	Single leg squat	3 x 10 reps	Squat lower
	5:	Single leg hop from unaffected to affected leg forward. Repeat laterally	3 x 6-8 reps	Increase hop distance
<i>Strengthening</i>	1:	Squat to chair	3 x 10 reps, ≥1 min between sets	Increase weight through affected leg, use lower chair
	2:	Squat to chair in split stance (unaffected leg in front)	3 x 10 reps, ≥1 min between sets	Reduce weight on unaffected leg
	3:	Single leg squat to chair	3 x 10 reps, ≥1 min between sets	Use lower chair
	4:	Single leg squat to chair weighted	3 x 10 reps, ≥1 min between sets	Hold heavier weight, use lower chair

AROM: active range of movement; AAROM: active assisted range of movement; min: minute; PROM: passive range of movement; rep: repetition; s: seconds